

REMARKS

Claims 10-20 are pending in this application. For purposes of expedition, claims 1-9 have been canceled without prejudice or disclaimer. Claims 10-20 have been newly added in accordance with current Office policy, to clearly define Applicants' disclosed invention relative to cited prior art and to assist the Examiner to expedite compact prosecution of the instant application.

The drawings have been objected to because unlabeled rectangular boxes shown therein should be provided with descriptive text labels. In response thereto, marked-up copies of the corrected drawing sheets and replacement sheets are enclosed for the Examiner's consideration and entry to overcome the objection.

Claims 1, 3, 4, 8 and 9 have been rejected under 35 U.S.C. §102(e) as being anticipated by Ueda et al., U.S. Patent No. 6,289,102 for reasons stated on pages 3-5 of the Office Action (Paper No. 08172004). Claims 2, 5 and 7 have been rejected under 35 U.S.C. §102(e) as being anticipated by Kees A. Schouhamer Immink, Codes for Mass Data Storage Systems, 1999, Shannon Foundation Publishers, for reasons stated on page 5 of the Office Action (Paper No. 08172004). Lastly, claim 3 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Ueda et al., U.S. Patent No. 6,289,102, in view of Moriya et al., U.S. Patent No. 5,867,475 for reasons stated on page 6 of the Office Action (Paper No. 08172004). While Applicants disagree with the Examiner's assessment of Ueda et al., U.S. Patent No. 6,289,102, Kees A. Schouhamer Immink, Codes for Mass Data Storage Systems, and Moriya et al., U.S. Patent No. 5,867,475, claims 1-9 have been canceled without prejudice or disclaimer in favor of claims 10-20, as newly added to clearly distinguish over these prior art references.

IN THE DRAWINGS

Attachments:

EXHIBIT A: Replacement Sheets for FIGs. 1, 2, 3, 4, 5, 6, 7, 8, 14, 15, 16, 17, 18, 19, 20, 25, 26, 27 and 29.

EXHIBIT B: Annotated Sheets showing changes made to FIGs. 1, 2, 3, 4, 5, 6, 7, 8, 14, 15, 16, 17, 18, 19, 20, 25, 26, 27 and 29.

For example, Ueda '102 only discloses an apparatus and method for preventing unauthorized use of information recorded on a recording medium. As shown in FIG. 1, the recording medium includes a lead-in area and a data recording area. Key information is recorded in the lead-in area, while scrambled data is recorded in the data recording area. Scrambled data is then descrambled based on the key information. According to Ueda '102, however, scrambling is performed by adding (done by Exclusive-OR Operation) M-sequence data to user data. As shown in FIG. 12, D_j represents user data and SD_j represents data after performing scrambling. In addition, key information needs to be memorized in order to perform descrambling.

In contrast to Ueda '102, Applicants' claims 10-20 define that output data (data after performing scrambling) is produced by adding input data (user data) to several bits randomized (scrambled) data. As a result of such an operation, output data is feed-backed and seed data is no longer required to be memorized in order to perform descrambling. Rather, it is now possible to descramble user data only processing the scrambled data through fixed circuits. Since seed data is no longer required to be memorized, data descrambling can now be handled with greater efficiency and significant advantages.

Kees A. Schouhamer Immink, Codes for Mass Data Storage Systems, 1999, Shannon Foundation Publishers, only describes a known "guided scramble" method used to create a run-length limited code having a flat frequency characteristic suitable for optical communication, as expressly acknowledged on pages 2-3, in the Background Section of Applicants' specification. Specifically, Kees discloses the use of a scramble circuit for producing code having for some user data sequence

suitable run-length characteristics. The scramble circuit has the configuration that produces a multiple scramble sequence by adding multiple scramble seeds every time and selects the most suitable one from those seeds. According to Kees, multiple scramble seeds added every time have the same value. As a result, the same scramble sequence is outputted every time for the same user data. Therefore, an output sequence after scrambling is the same every time.

In contrast to Kees, Applicants' claims 10-20 produce a different sequence from the same user data every time in order to prevent recording medium deterioration. As a result, different seed data is provided and different scrambled sequence is produced every time.

Moriya '475, as a secondary reference, does **not** remedy the noted deficiencies of Ueda '102 or Kees in order to arrive at Applicants' claims 10-20. This is because Moriya '475 is only cited for allegedly disclosing the use of "means for adding an error correcting code to scrambled data after the scrambling, and means for writing data to which the error correcting code is added on the disk." Thus, even assuming *arguendo* that Moriya '475 can be incorporated into Ueda '102, the proposed incorporation still does not arrive at the subject matter of Applicants' claims 10-20.

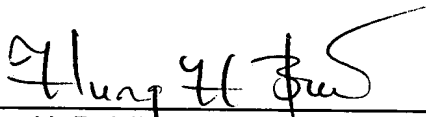
In view of the foregoing amendments, arguments and remarks, all claims 10-20 are now deemed to be allowable and this application is believed to be in condition to be passed to issue. Should any questions remain unresolved, the Examiner is requested to telephone Applicants' attorney at the Washington DC area office at (703) 312-6600.

To the extent necessary, Applicants petition for an extension of time under 37 CFR §1.136. Please charge any shortage of fees due in connection with the filing of this paper, including extension of time fees, to the Deposit Account of Antonelli, Terry, Stout & Kraus, No. 01-2135 (Application No. 520.39904X00), and please credit any excess fees to said deposit account.

Respectfully submitted,

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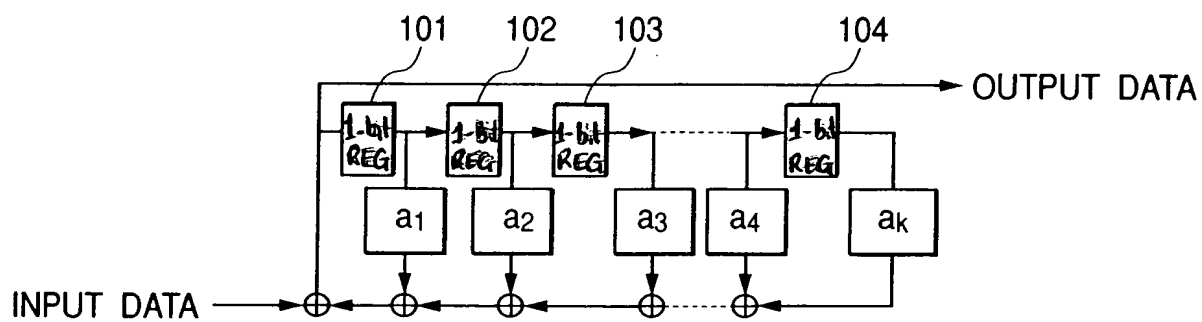
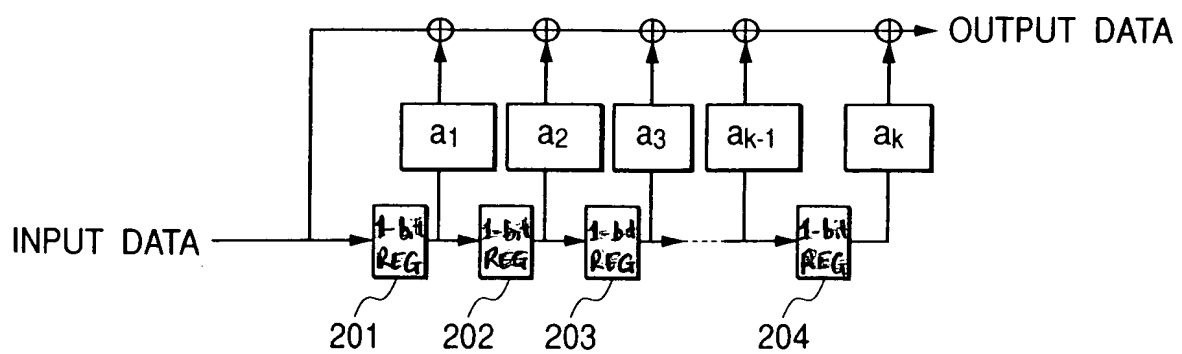
FIG. 1*FIG. 2*

FIG. 3

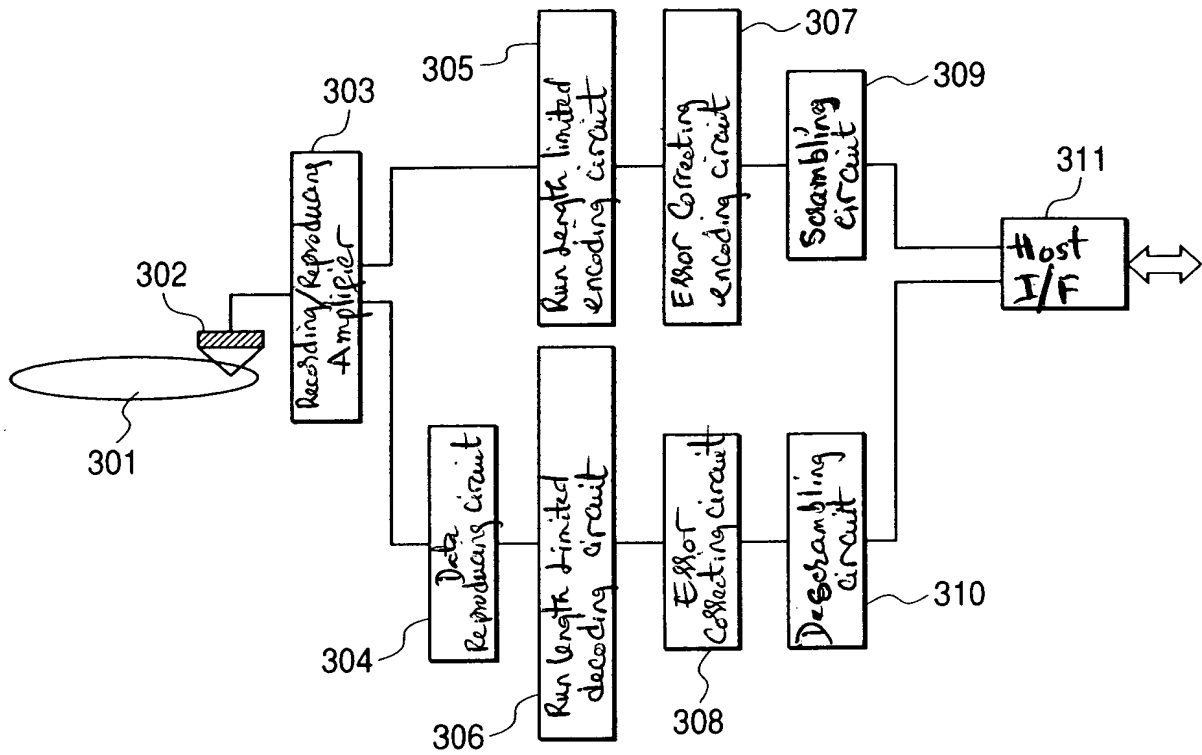


FIG. 4

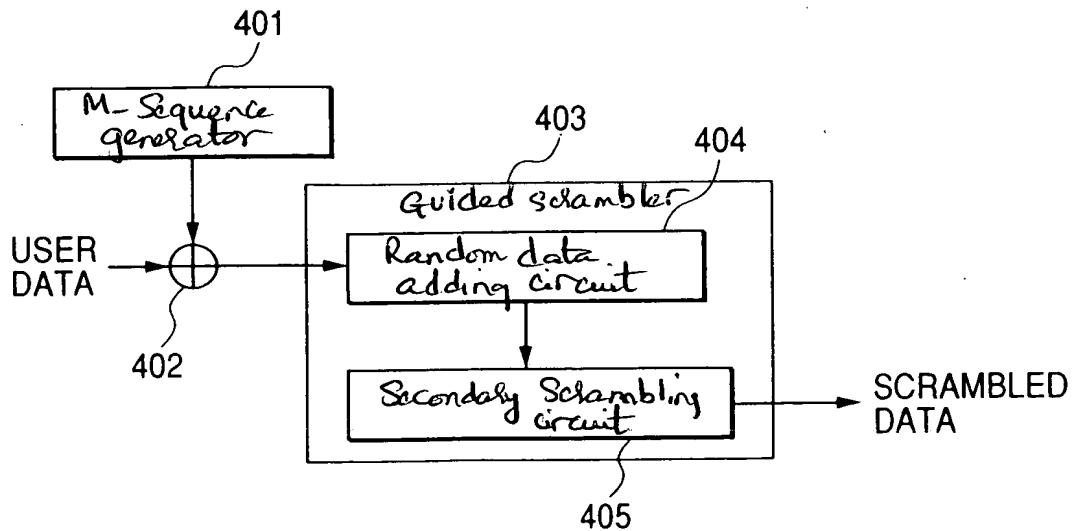
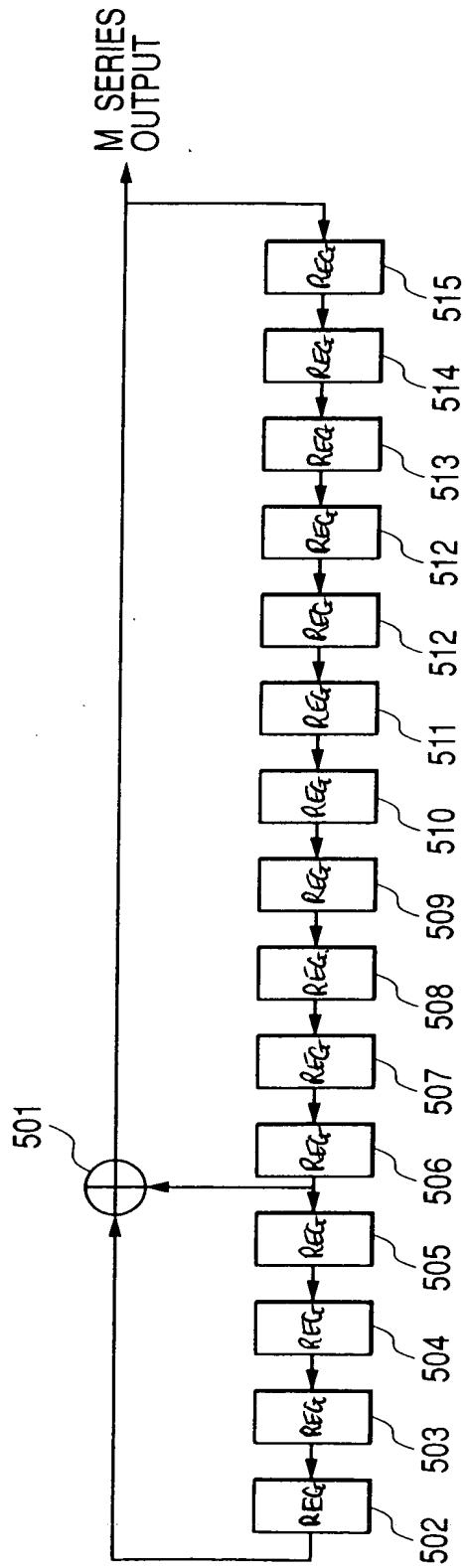
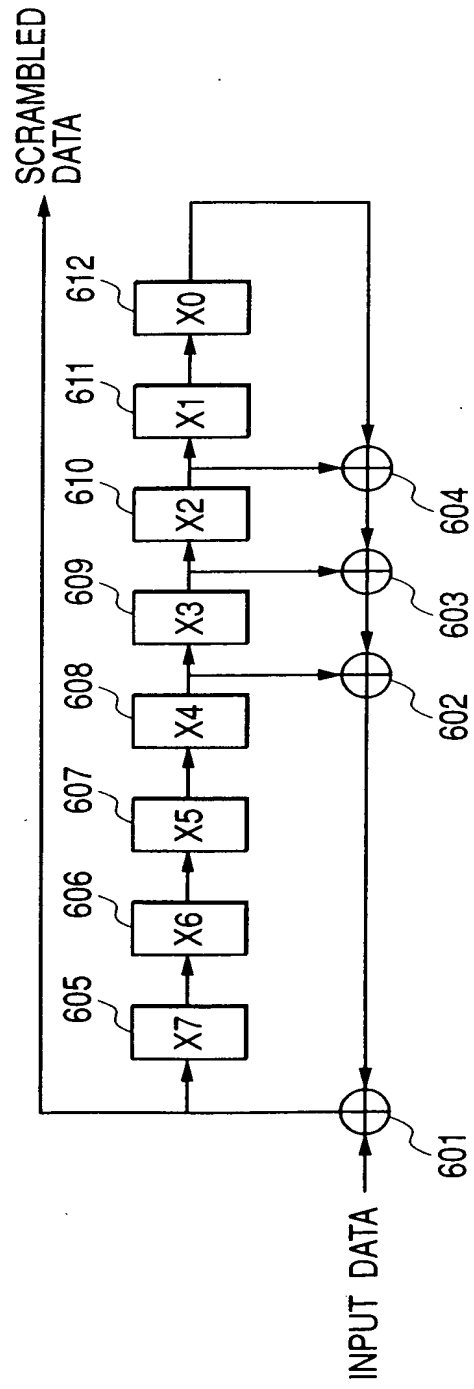


FIG. 5



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FIG. 6



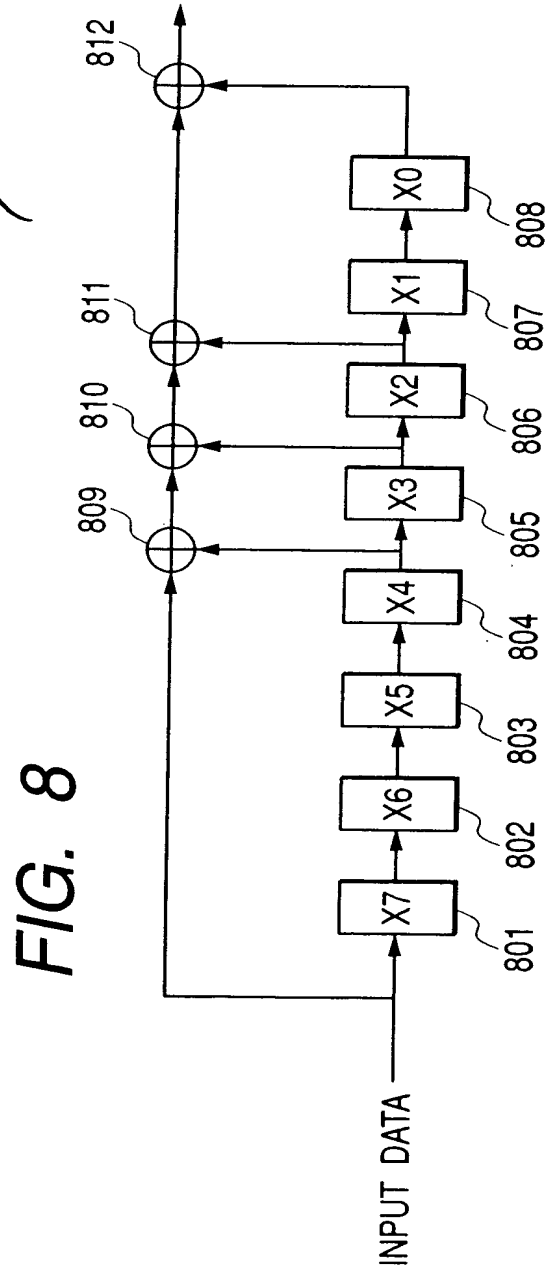
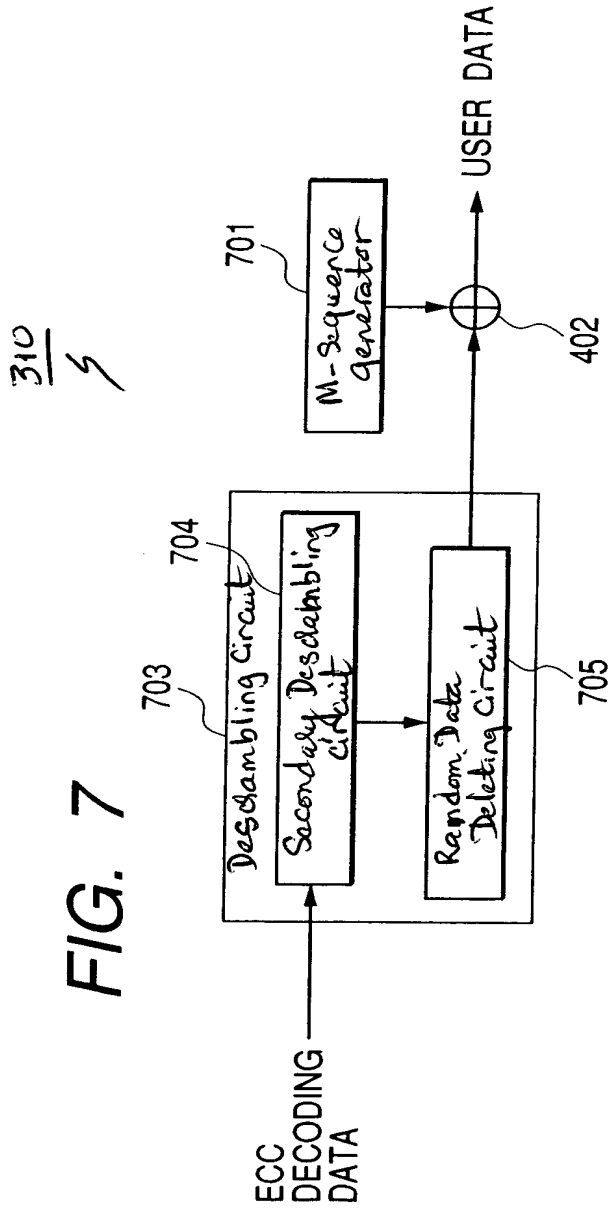


FIG. 14

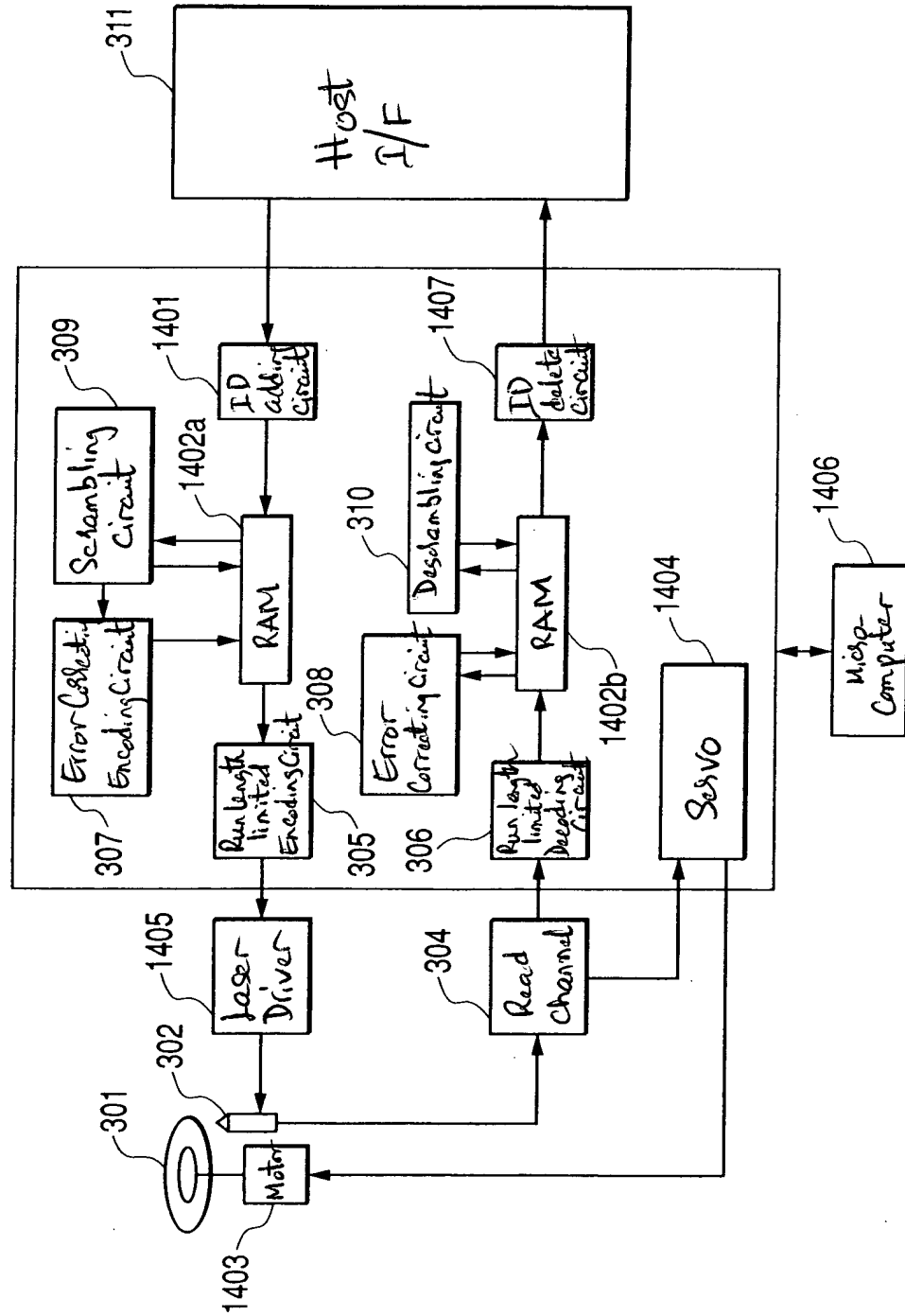


FIG. 15

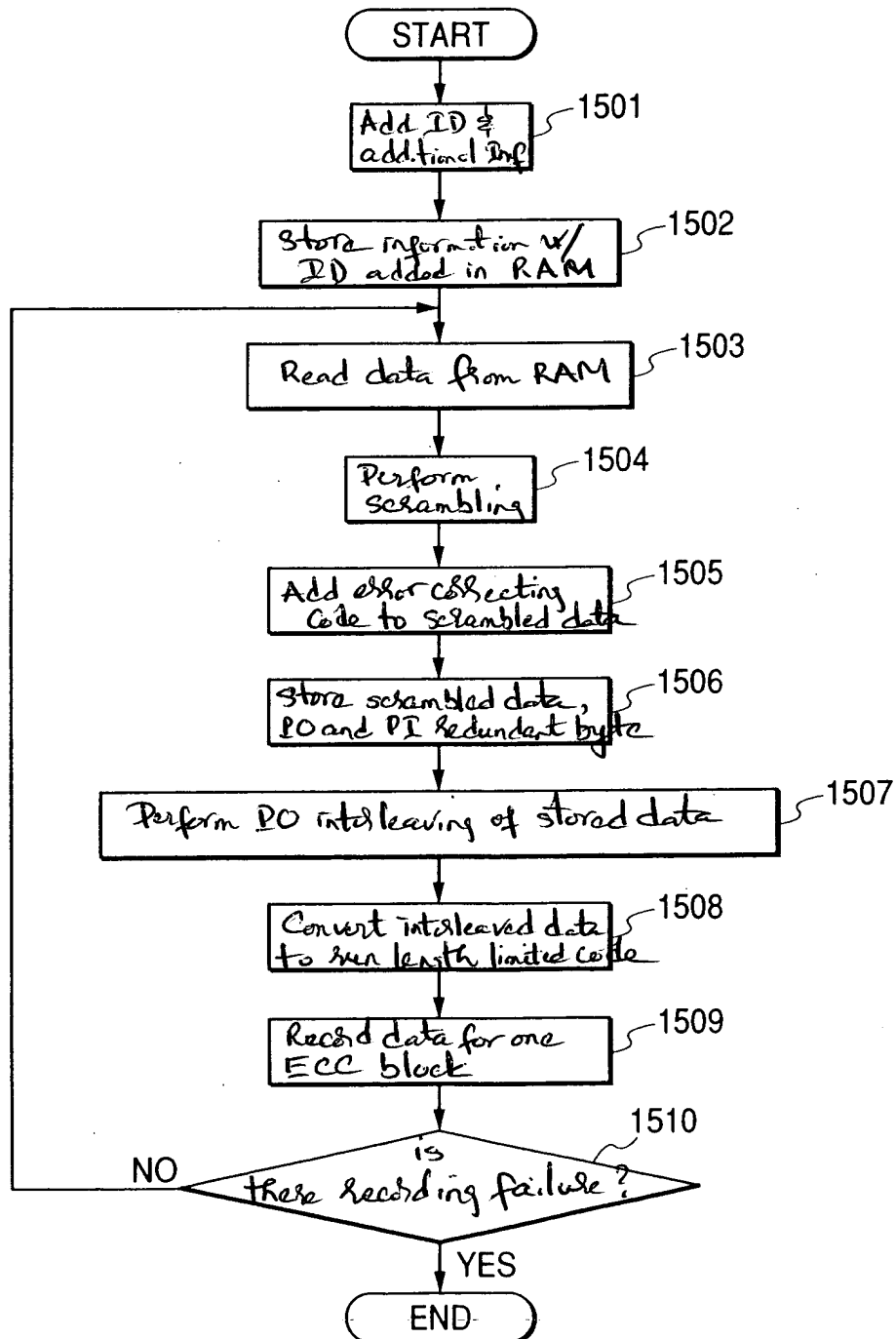


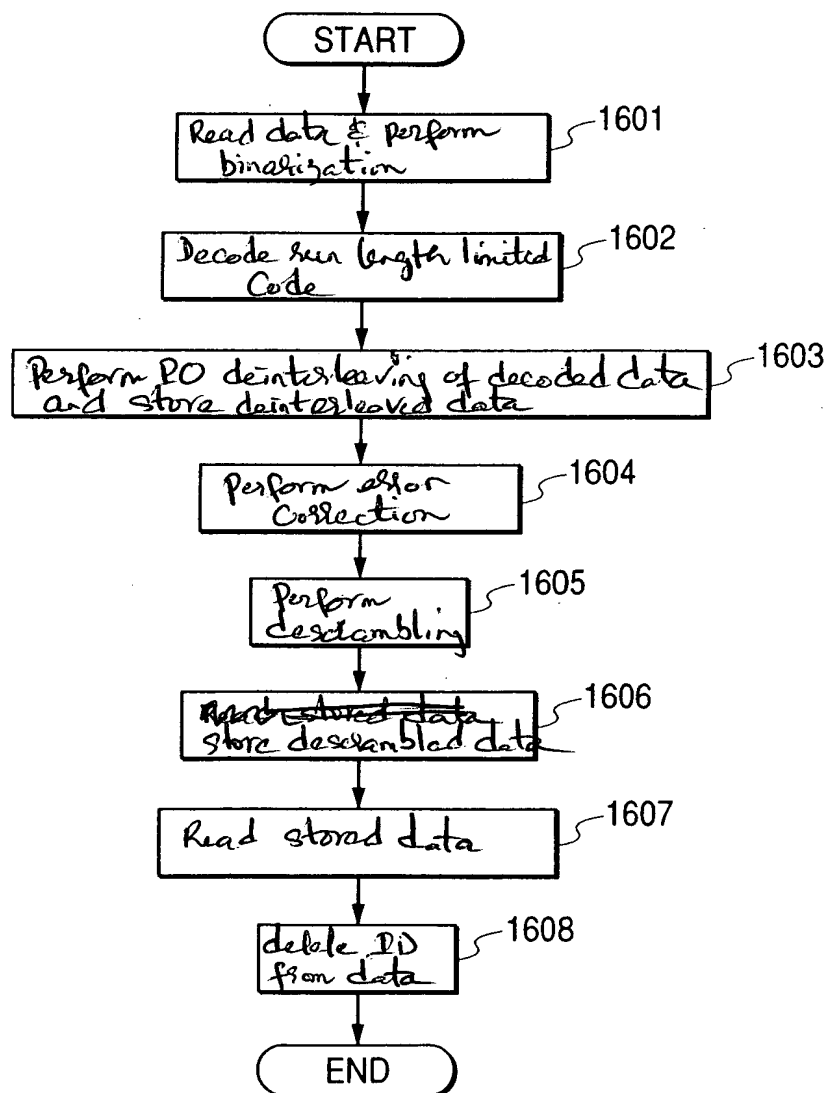
FIG. 16

FIG. 17

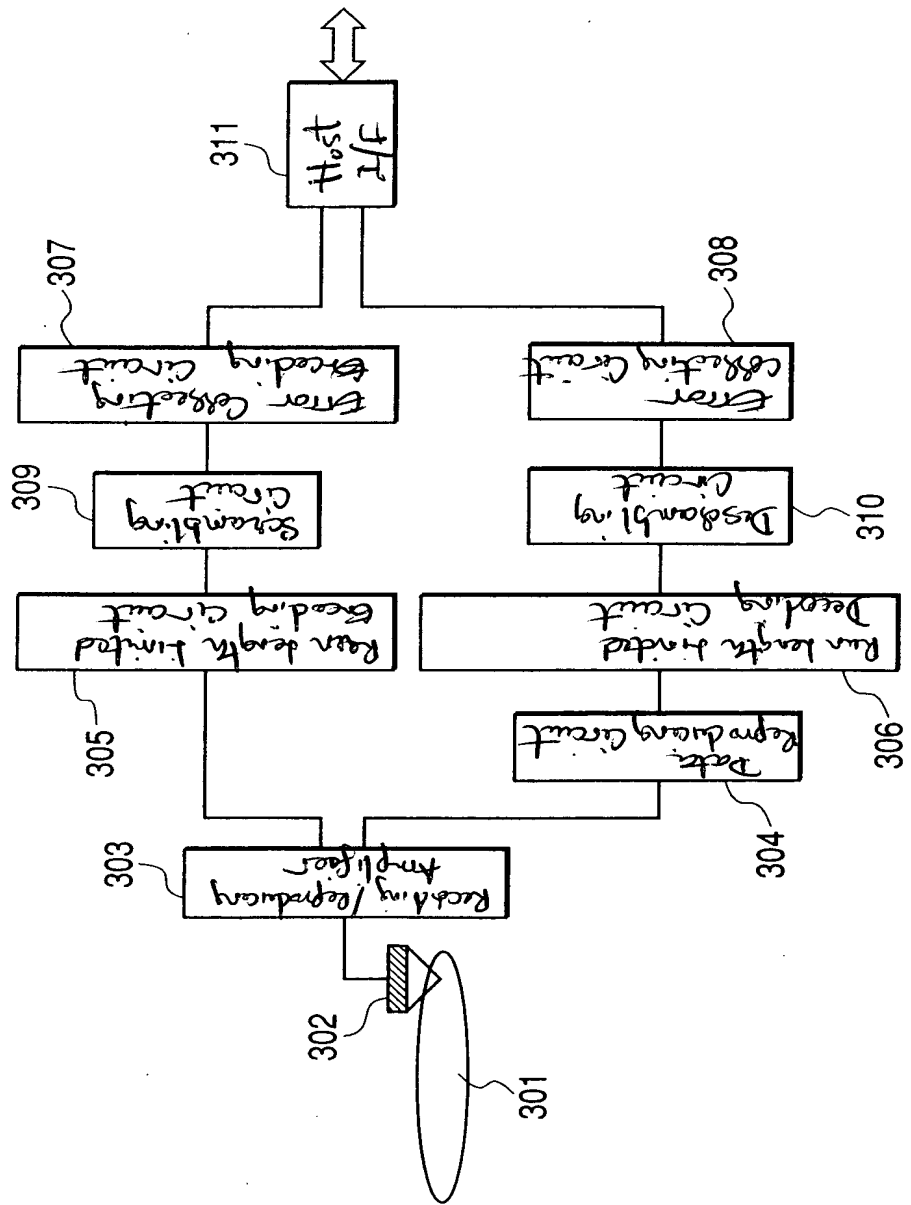


FIG. 18

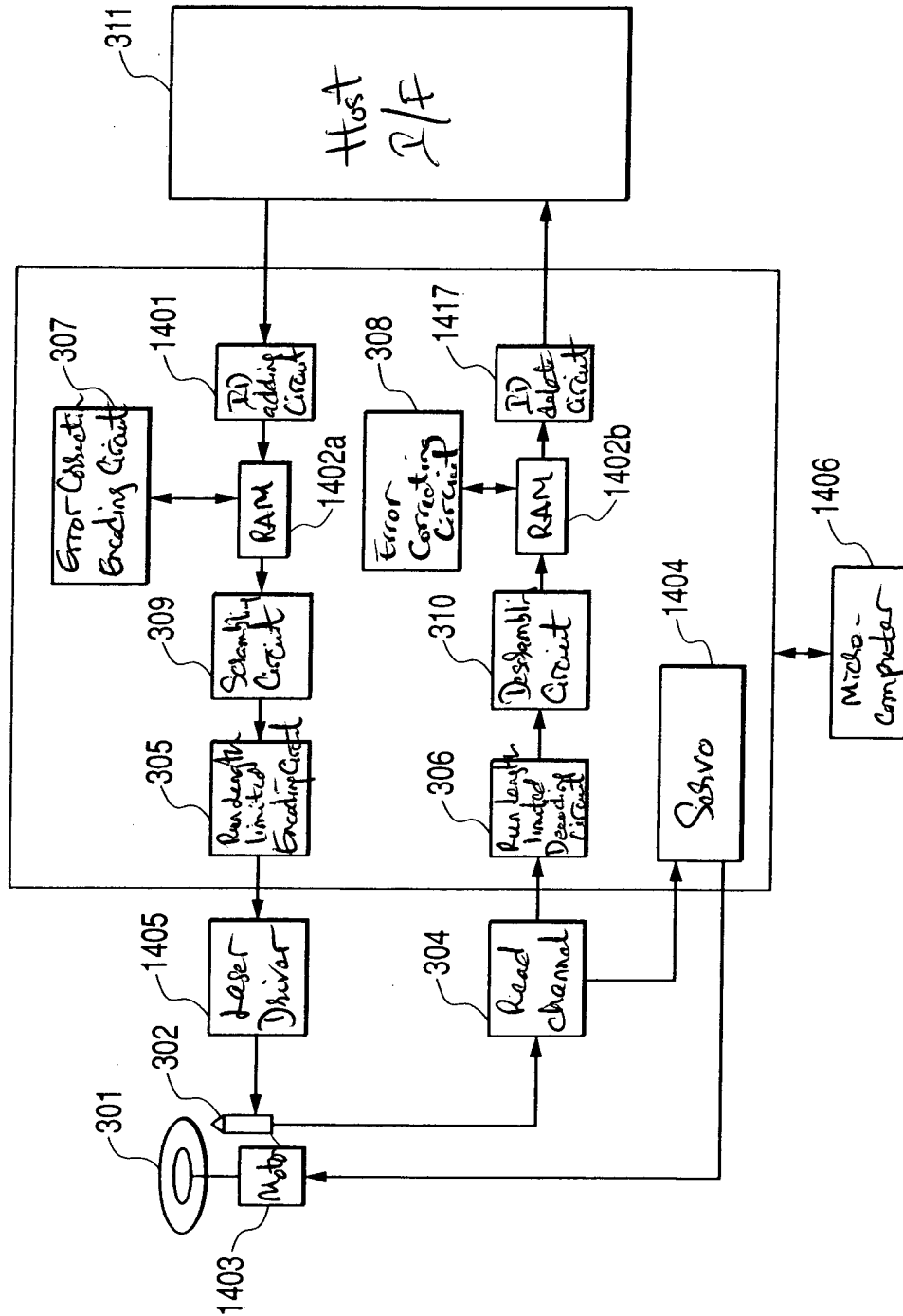


FIG. 19

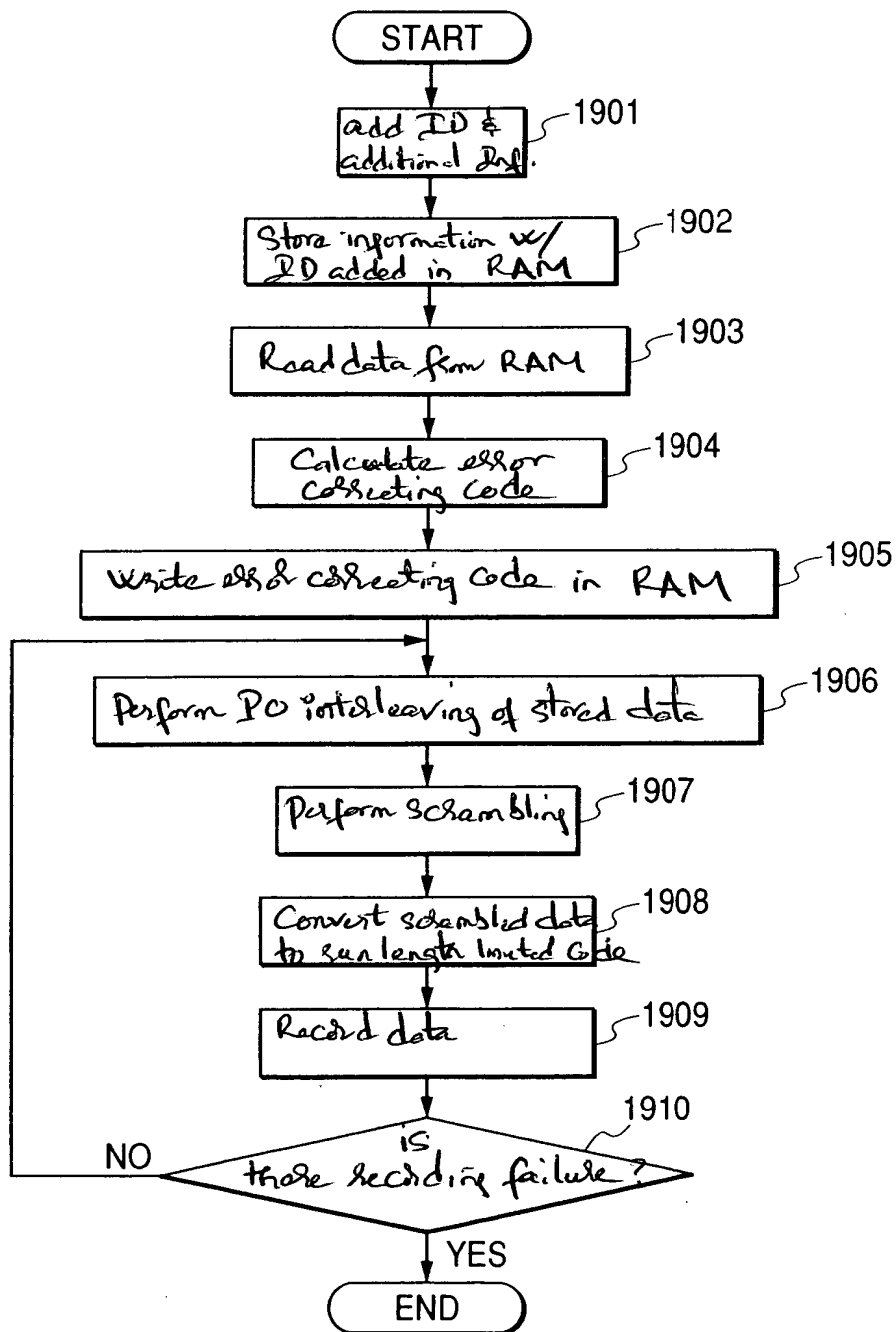


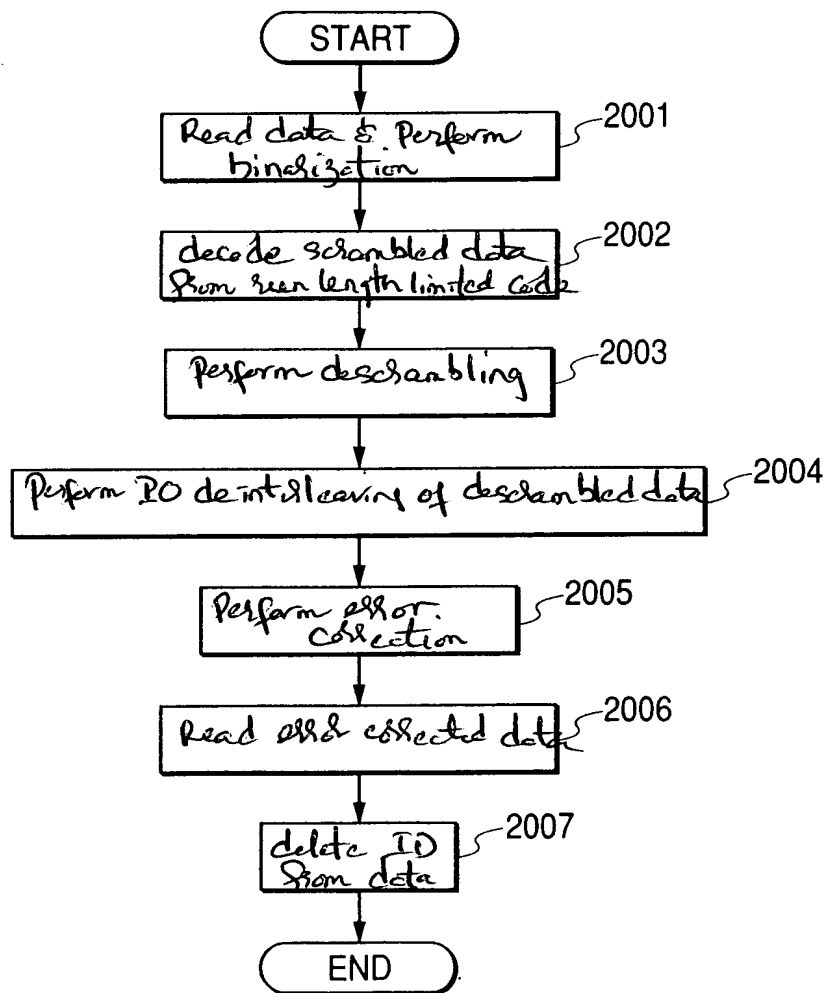
FIG. 20

FIG. 25

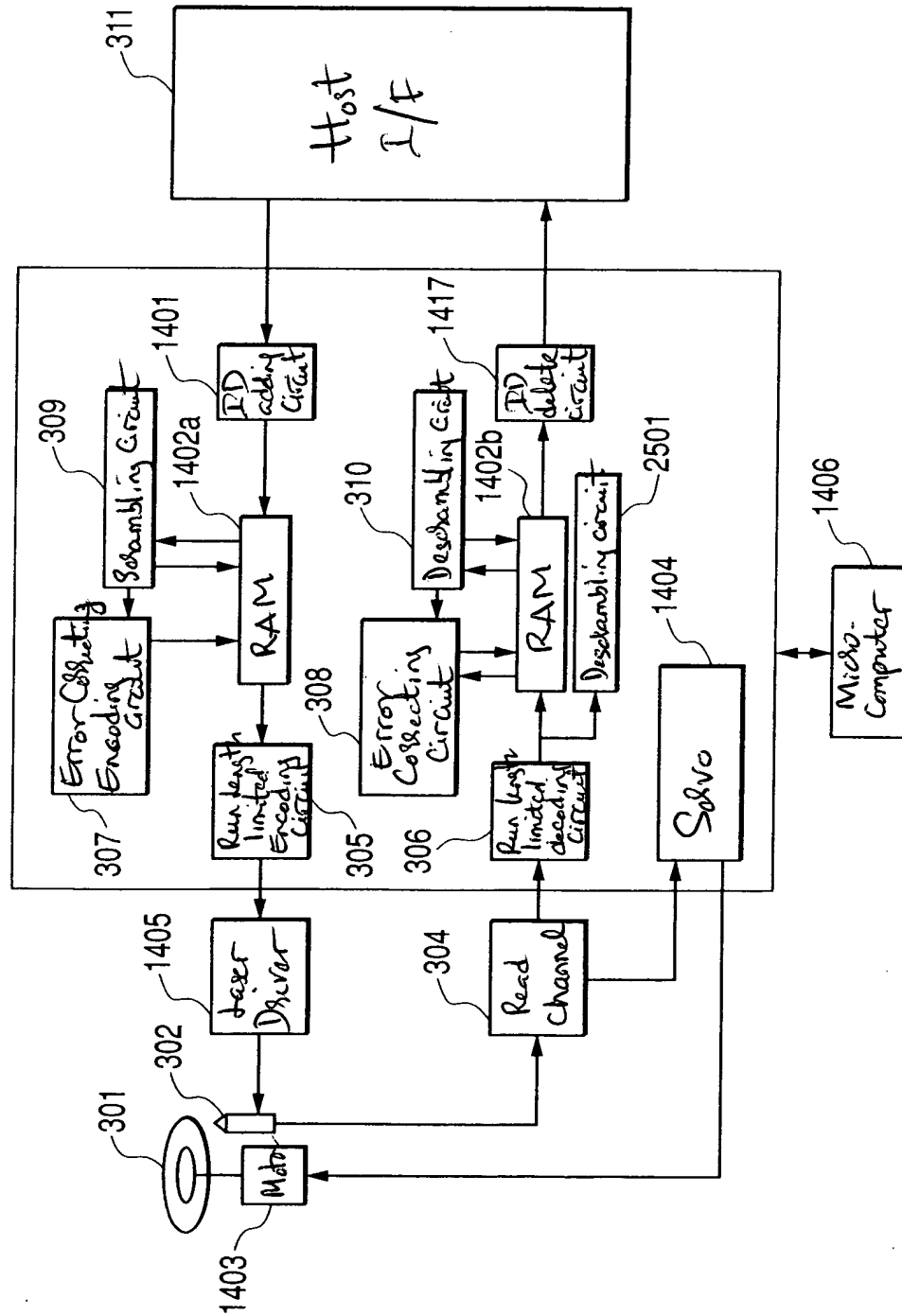


FIG. 26

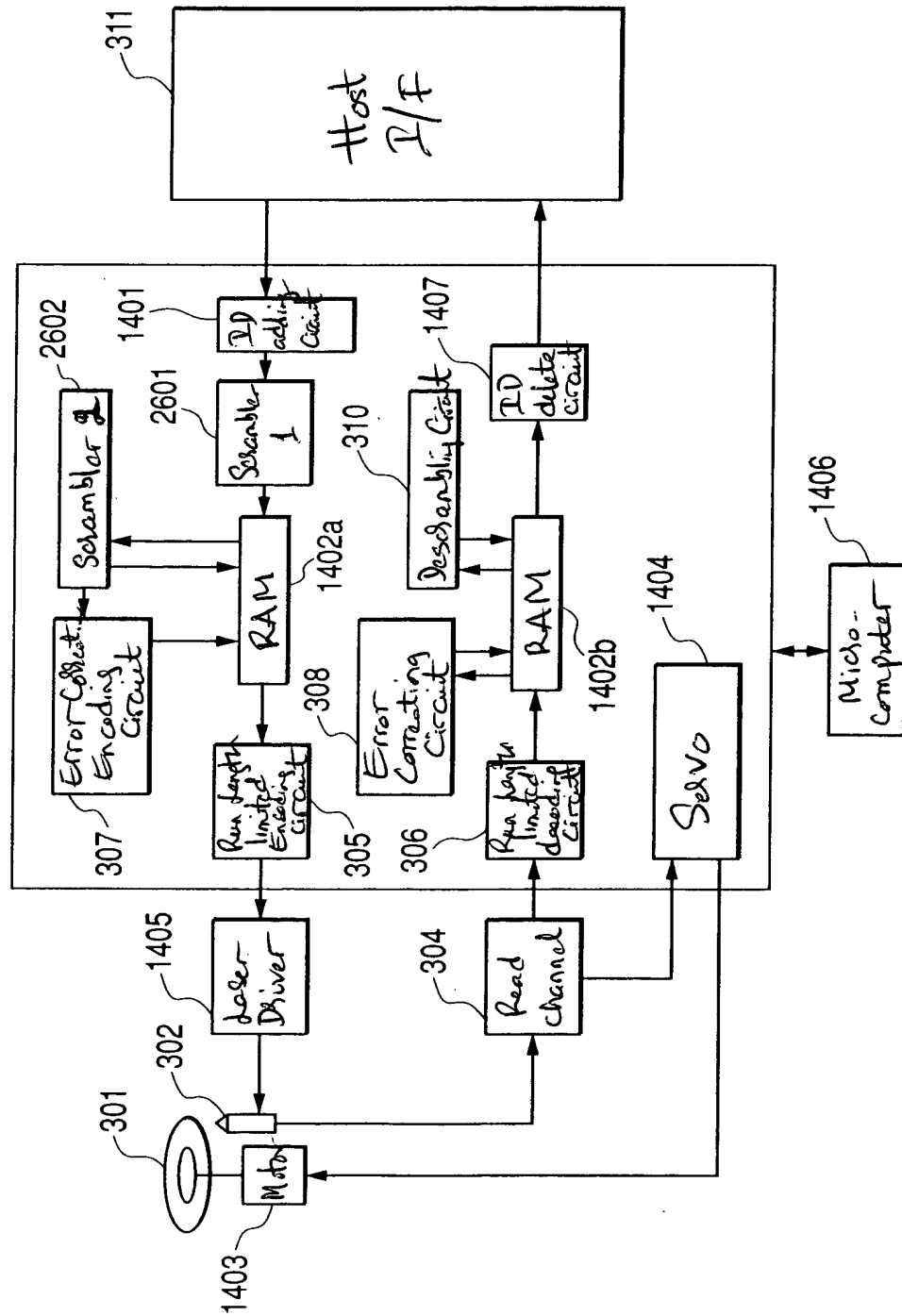


FIG. 27

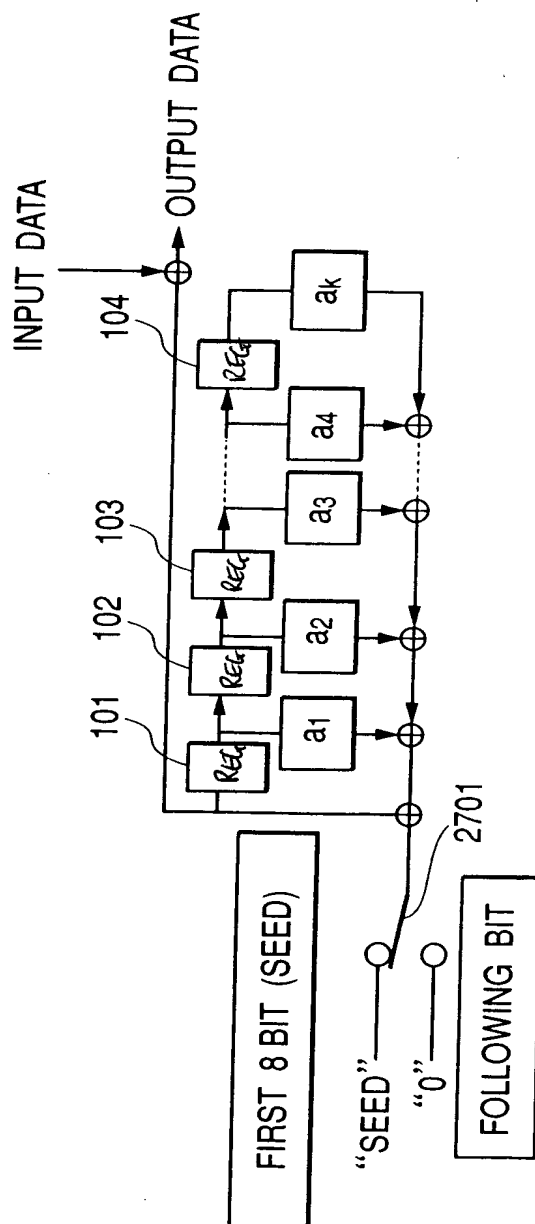


FIG. 29

